

#### FOREIGN PATENT DOCUMENTS

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#### ABSTRACT

An optical device for reading one- and two-dimensional symbologies at variable depths of field. The device has a light source for projecting emitted light toward the symbol image to be reflected back to an optical assembly, or zoom lens. The zoom gives multiple field of view capability to a CCD detector for detecting the reflected light, and generating a proportional electrical signal. The sensor is aimed for reading the symbology by a frame locator including a light source that emits a beam divided by diffractive optics into beamlets matching the dimensions of the respective field of views. Refractive optics are shifted in response to movement of the zoom lens for aiming the beamlets to form an aiming frame in accordance with the depth of field selected by the zoom lens. The device includes a microcomputer that communicates with a host PC including an API library with downloadable applications for image processing, including segmenting, analyzing, and decoding.

37 Claims, 35 Drawing Sheets